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**NAVAL WAR COLLEGE
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**THE CHINESE MILITARY: FOREIGN ASSISTANCE HIDING SIGNIFICANT MILITARY
INDUSTRIAL COMPLEX DEFICIENCIES**

By

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A paper submitted to the Faculty of the Naval War College in partial satisfaction of the requirement of the Department of Joint Military Operations.

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Abstract of

THE CHINESE MILITARY: FOREIGN ASSISTANCE HIDING SIGNIFICANT
MILITARY INDUSTRIAL COMPLEX DEFICIENCIES

The Chinese military is viewed by many military and civilian strategists as an emerging superpower and military rival. Years of economic surplus have provided China with the means to significantly improve and modernize its armed forces through procurement of foreign weapons systems, primarily from Russia. The purchasing of these systems demonstrates a profound operational weakness within the PLA – the inability of its military industrial complex to design, develop and produce indigenous state-of-the-art military equipment.

Operationally, the U.S. can take advantage of China's military industrial complex weaknesses through both domestic and foreign measures. Domestically, by analyzing the weapons purchases, we can ensure that our own weapons technologies are superior and retain our advantage in the battle space. Internationally, we can apply political pressure to dissuade countries from selling advanced weapons systems to China, we can provide financial incentives to install tracking devices on weapons sold, and we can increase the human intelligence presence in Asia to ensure that the weapons purchases are not a deception measure to mask indigenous Chinese production of cutting-edge weapons technology. By understanding the direction and strategy that China is heading in arming its forces, the U.S. will be better prepared to confront this transforming and dangerous potential adversary.

The Chinese military, known as the People's Liberation Army (PLA), is viewed by many American military and civilian strategists as an emerging superpower and military rival. Years of economic surplus have provided Beijing with the means to significantly improve its armed forces through foreign procurement. In the past decade, the PLA has made substantial gains in acquiring military technology, primarily from its one-time adversary, Russia. China now possesses Russian-made KIL0-class submarines, SOVREMENNY-class destroyers, Su-27 and Su-30 fighter and attack aircraft and SA-10/SA-15 surface-to-air-missile (SAM) systems. These acquisitions vastly improve upon the ancient and antiquated 1950's and 1960's era equipment which the Chinese forces have in quantity.

The purchasing of these systems demonstrates a profound operational weakness within the PLA – the inability of its military industrial complex to design, develop and produce indigenous state-of-the-art military equipment. Although acquiring operational systems saves the PLA the time and expense of research and development (R&D) costs as well as testing and evaluation of prototypes and design modifications, the acquisitions demonstrate three critical weaknesses: first, the Chinese inability to consistently produce quality, modern weapon systems; second, the lack of faith and overall dissatisfaction the Chinese leadership has with its military industry; and third, the dependency the PLA will develop on foreign sources, not only for complete weapons systems, but also for spare parts, maintenance and training (system infrastructure) that must accompany the sale. The U.S. should focus its regional security strategy efforts on the dependency aspect China maintains with its weapons suppliers while continuing to develop and produce technologically advanced weapon systems.

Despite the fact that the recent purchases of foreign equipment provide the Chinese with sophisticated and modern military systems, the purchases highlight the inability of the Chinese military industrial complex to produce advanced systems without foreign assistance. These purchases also identify the type of force the Chinese will present to the U.S. in the next decade.

BACKGROUND

The Chinese military modernization efforts derive from the country's "863" and "Super-863" programs. Chinese Chairman Deng Xiaoping supported these modernization programs after China's humiliating loss to the Vietnamese in the 1979 border conflict. The 863 program was driven by Chairman Deng as a commercial science and technology (S&T) development program, manned by the State Commission of Science, Technology and Industry for National Defense (COSTIND) – China's main defense R&D oversight organization.¹ The 863 Program focused on acquiring military technology and concentrated on seven key areas for long term development: space, lasers, automation, biotechnology, information systems, energy and new materials.² To further speed up the modernization process of the PLA, Chairman Deng approved the first purchases of Russian-made equipment in 1985.³ The Super-863 Program, which succeeded the 863-Program in 1996, was backed by Chinese President Jiang Zemin and focused on subsequent long-term S&T development in such key areas as machine tools and computerized manufacturing systems,

¹ Richard Bitzinger, "Going Places or Running in Place? China's Efforts to Leverage Advanced Technologies for Military Use," *People's Liberation Army After Next* (Pennsylvania: Strategic Studies Institute, 2000), 12.

² Michael Barron, *Military Purchases from Russia and China's Strategic Modernization: A Relative Evaluation, Implications and Future Options for the United States* (Pennsylvania: U.S. Army War College, 2001), 6.

³ *Ibid.*, 6.

microelectronics, telecommunications, and nuclear, aviation, space and marine technologies.⁴ These development goals demonstrated that although military modernization was a priority, China's leaders placed economic growth as their top priority.

In 1991, the U.S. victory in the Persian Gulf also dramatically influenced the Chinese leaders, who quickly learned lessons from Operation DESERT STORM, driving them to upgrade the PLA for modern warfare.⁵ The swiftness of the allied victory stunned the Chinese high command, and the PLA was forced to address elements of modern warfare that it previously had neglected or did not consider as realistic. The elements included: precision-guided munitions; stealth technology; electronic countermeasures; airborne command and control systems; inflight refueling; the use of anti-ballistic missile defense; and the use of special operations commando units.⁶ Another event that convinced China's leadership that modernization efforts were necessary was the deployment of two U.S. aircraft carrier battle groups (CVBG) near Taiwan during the March 1996 tension in the Taiwan Strait. This incident embarrassed the Chinese leadership, which subsequently ordered the PLA Navy to acquire the capabilities to prevent similar future deployments by the U.S. Navy.⁷ Finally, the 1999 allied bombing campaign against Kosovo in which air-power and missiles forced Serbia's army out of Kosovo was a major catalyst for increasing the PLA's budget.⁸

⁴ Bitzinger, "Going Places or Running in Place? China's Efforts to Leverage Advanced Technologies for Military Use," p.12.

⁵ Congressional Research Service, *China's Foreign Conventional Arms Acquisitions: Background and Analysis*. 106th Congress, 2000, RL30700, p.6.

⁶ David Shambaugh, "China's Foreign Military: Real or Paper Tiger?" *Washington Quarterly*, 19:2 (1996), p.25.

⁷ Country Briefing, "People's Republic of China: New Plan to Train, Purchase Vessel Mix" *Jane's Defense Weekly*, 030/024 (1998).

⁸ Barron, *Military Purchases from Russia and China's Strategic Modernization: A Relative Evaluation, Implications and Future Options for the United States*, p.8.

ECONOMICS: THE KEY TO MILITARY MODERNIZATION

For China's leaders, the domestic economy is the most important factor determining future military power. They believe that economic growth will stagnate if resources are poured into military modernization at the expense of domestic economic development.⁹ By the early 1990s, the People's Republic of China (PRC) economic reforms, expanded foreign trade and earnings from tourism had spurred significant jumps in its foreign exchange holdings.¹⁰ As an indicator, in early 1992, the PRC held the 6th largest foreign exchange reserve in the world (\$43 billion in foreign reserves), part of which was available for arms purchases.¹¹ In 2001, the Chinese Finance Minister Xiang Huaicheng announced that in order to cope with "drastic changes" in the world's military situation, China would increase defense spending by 17.7% (totaling \$17.195 billion), its biggest expansion in real terms in the last 20 years.¹²

CHINA BEGINS PURCHASING WEAPONS

In the early 1990s, with an economic surplus and a defined goal of military modernization, China began large-scale purchasing of modern weapons systems. This was due to the following four factors: first, commitment by China's leadership to modernize the PLA with weapons capable of deterring an aggressor like the United States; second, the realization that China's arms industries could not produce equipment to match that of the United States, thus underscoring the inability of China's military and development sector to produce equipment that meets or exceeds state-of-the-art; third was China's sustained economic growth which translated into larger defense budgets; and, finally, the availability

⁹ Ibid., vi.

¹⁰ Congressional Research Service, *China's Foreign Conventional Arms Acquisitions: Background and Analysis*, p.6.

¹¹ Ibid., p.6.

and variety of weapons systems produced by various countries (such as Russia, Israel, Italy, France, and Germany) that were willing to sell to China.¹³

THE PRC WHITE PAPER ON NATIONAL DEFENSE

The October 2000 PRC White Paper on National Defense identified the United States as China's main threat and "road block" on its path to regional military supremacy and reunification with Taiwan.¹⁴ Thus the U.S. became the target of China's focus on military modernization efforts.¹⁵ After witnessing the effectiveness of Allied, and specifically the U.S. military forces in Iraq and Kosovo, the PRC knew it had to promptly field comparable systems in order to achieve its White Paper goals.

PROBLEMS WITH CHINA'S MILITARY INDUSTRIAL COMPLEX

China was able to purchase over \$11 billion of weapons, primarily from Russia and Israel during the 1980s-1990s (table I). Why was China unable to develop, design and produce on its own, modern military systems? Why did China, with its economic surplus and 1.2 billion population have to rely primarily on foreign suppliers of technology, and what effect will this have on the PLA's future force structure? The causes of China's inherently weak military industrial complex include both technical and production deficiencies.

¹² John Pomfret, "China Plans Major Boost In Spending For Military" *Washington Post*, 06 Mar 01, p.1.

¹³ Richard Fisher, Jr., "Foreign Arms Acquisition and PLA Modernization" *China's Military Faces the Future* (Washington, D.C.: American Enterprise Institute, 1999), p.87-88.

¹⁴ Barron, *Military Purchases from Russia and China's Strategic Modernization: A Relative Evaluation, Implications and Future Options for the United States*, p.8.

The PRC White Paper accused Washington of "practicing a new gunboat policy and neo-economic colonialism" and remarked that the plan to create a missile-shield would seriously destabilize the security of the Asia-Pacific region. Therefore, a more modern, better equipped military would be needed to fight the type of conflict the Chinese strategic planners envisioned as the most likely scenario in the future - a short, limited war using high-technology equipment on the Chinese borders. Barron, *Military Purchases from Russia and China's Strategic Modernization: A Relative Evaluation, Implications and Future Options for the United States*, p.8.

¹⁵ *Ibid.*, p.8.

R&D LIMITATIONS

Despite years of R&D efforts, China's defense industry continues to rely heavily and increasingly upon foreign technologies especially for jet engines, marine diesel engines and fire-control radars and other avionics.¹⁶ The Chinese J-10 fighter is reportedly powered by the Russian-built AL-31F engine; the new Chinese SONG-class submarine uses a German supplied diesel engine; both the MING and HAN-class submarines reportedly have been upgraded with a French sonar and combat system.¹⁷ China's new LUHAI-class destroyer incorporates gas turbine engines from the Ukraine, a German electrical system, Italian torpedoes and Russian helicopters¹⁸ (and this is classified as a "domestically produced" ship?). Although it does make some sense for Beijing to import advanced technologies (saving time and resources in trying to develop similar indigenous capabilities), the growing dependency on imported systems and technologies is indicative of the lack of domestic R&D capability that hinders the military.

Reverse engineering, for which the Chinese are notoriously famous, has its own limitations. Although the Chinese might be able to produce a similar product, such as the U.S. designed AN/TPQ-37 artillery-locating radar which China produces as the Type-704, they have had to order a large number of spare parts which indicates an inability to copy these components.¹⁹ The delays involved in China's attempts to reverse engineer have prevented it from developing timely, cutting edge technology.²⁰

¹⁶ Bitzinger, "Going Places or Running in Place? China's Efforts to Leverage Advanced Technologies for Military Use," p.22.

¹⁷ Ibid., p.22.

¹⁸ Ibid., p.22.

¹⁹ Ibid., p.23.

²⁰ Ibid., p.24.

CHINA'S LIMITED MILITARY TECHNOLOGY CAPABILITIES

The most revealing limitation of China's military technology capabilities is illustrated by the United States' Department of Defense process for assessing items for the Military Critical Technologies List (MCTL). Technology significance was determined by two sets of criteria: those that could (a) enhance threats by potential adversaries of the United States and (b) provided a measurable advantage to U.S. military systems.²¹ Ultimately, all of the world's significant defense industries were evaluated.²² The TWG assigned a numerical grade ranging from "0" indicating that a state has no capability or that the TWG could not reach a consensus, to "4" indicating that a country is believed to have the production capability in all elements of a technology area.²³ The results for China were not encouraging for their R&D and production capabilities. After reviewing 82 of the capabilities critical to the development and production of advanced military weapons, China was assessed a score of 4 or 3 in only 14 technologies, and received a score of 2, 1 or 0 in 69 technologies (table II).²⁴ China's strengths are illustrated in table III, other than nuclear and laser technologies, it does not indicate a proficient capability for high technology.

China's weaknesses, as depicted in table IV, are numerous, especially in marine systems, space systems, information systems, information warfare (IW), and manufacturing and fabrication. Especially troubling for the Chinese are the areas that would contribute significantly to improved battle-space awareness, long-range precision strike munitions, command and control of joint military operations and information warfare; all received

²¹ The compilation of this list involved 15 technology working groups (TWG) that reviewed more than 6,000 technologies and identified 2,060 as militarily significant. Cole and Godwin, "Advanced Military Technology and the PLA: Priorities and Capabilities for the 21st Century," p.169.

²² Ibid., p.169.

²³ Ibid., p.170.

²⁴ Ibid., p.170.

scores no higher than 2 and in most cases averaged about a 1.²⁵ With these deficiencies within the PRC's technology sector, it is no surprise that China purchases modern weapons systems externally.

PROBLEMS WITH CHINA'S QUALITY PRODUCTION CAPABILITY

To compensate for their limited technological capabilities, and to avoid the time and cost associated with reverse engineering, China prefers to purchase both the weapon systems and the production licenses rather than just the system itself. The Chinese believe that the production licenses provide value in that they could import the mechanical and processing infrastructure to produce the agreed-to weapon system, and that this production would act as a model for future indigenous programs.

An agreement was reached in 1995 with Russia to allow China to co-produce, from Russian kits, 200 Su-27 fighter aircraft under license to eventually lead to full production in China over a period of 15 years.²⁶ The Chinese have experienced problems and delays with their Su-27s co-production program, even though it entailed only the relatively simple task of assembling knock-down kits imported from Russia.²⁷ While the first two locally assembled Su-27 fighters achieved first flight in December 1998, press reports indicate that the aircraft immediately had to be taken apart and rebuilt due to "sub-standard work."²⁸ The same report stated that due to numerous problems, it would take 2 years before the Chinese Su-27 aircraft

²⁵ Ibid., p.176.

²⁶ Congressional Research Service, "China's Foreign Conventional Arms Acquisitions: Background and Analysis," p.12.

²⁷ Bitzinger, "Going Places or Running In Place? China's Efforts to Leverage Advanced Technologies For Military Use," p.24.

²⁸ Ibid., p.24.

factory would reach full rate production.²⁹ Consequently, at least 100 Russians remained on-site at the Su-27 plant to oversee production and guarantee quality control.³⁰

The Chinese defense industry continues to labor, with little to no success, in overcoming its long-standing problems with quality control.³¹ An example of this could be seen with Chinese-built frigates delivered to Thailand in the early 1990s. The ship's hulls buckled after firing trials of the on-board 5-inch gun, compartments were without access, and doors and ladders led to nowhere; in fact, upon arrival in Thailand these ships had to be put into dry-dock for repairs.³² In general, a Chinese shipyard takes two to six times longer than advanced shipbuilding countries to construct a comparable ship, and are deficient in several areas of ship construction including mechanization and advanced welding technologies.³³

CAUSES OF CHINESE TECHNOLOGICAL DEFICIENCIES

According to James R. Lilley, former U.S. Ambassador to China who wrote "People's Liberation Army After Next," the Chinese still confront severe problems when moving from prototype to production, including drawn-out development times, program slippage and small production runs.³⁴ The Chinese also suffer from a lack of ability to integrate dozens of disparate components into a finished weapon system, a lack of technical expertise in the workforce, wasted resources due to Soviet-style overcapacity, and a defense industry that is highly compartmented and secretive.³⁵

²⁹ Congressional Research Service, "China's Foreign Conventional Arms Acquisitions: Background and Analysis," p.12.

³⁰ Bitzinger, "Going Places or Running In Place? China's Efforts to Leverage Advanced Technologies For Military Use," p.25.

³¹ Ibid., p.26.

³² Ibid., p.26.

³³ Ibid., p.25.

³⁴ Richard Newman, "The Chinese Sharpen Their Options" *Air Force Magazine Online*, 84/10 (2001), <http://www.afa.org/magazine/oct2001/100/cina.html>.

³⁵ Ibid.

PROBLEMS WITH CHINA'S RELIANCE ON FOREIGN MILITARY EQUIPMENT

Based on China's unsophisticated military industrial complex and limited educated/experienced work force, acquiring foreign weapons to modernize their military appears to be a logical decision. But this approach contains important limitations as well. First and foremost is the dependency created upon the supplying country for such items as spare parts, maintenance, training and upgrades. For example, regarding the Su-27 co-production agreement, the fighters are assembled in China, but the parts are made in Russia.³⁶ Also, the Su-27s need to have their airframe overhauled, usually after about 800 hours of flight time, and this maintenance can be done only in Russia.³⁷ Even PRC officials have claimed that the PLA Air Force is not capable of flying or maintaining sophisticated foreign aircraft but the ability to maintain imported aircraft, SAMs and air-to-air missiles is central to their operational employment.³⁸

The supplying country also holds advantages in selling missiles and upgrades to China. Although some weapon system interoperability can take place, it is not optimal to "mix-and-match" weapons from different countries on a firing platform. Thus Russia can offer the Chinese state-of-the-art missile packages to China for its KILO submarines and Su-27/Su-30 aircraft complementing the Russian-made systems the Chinese already possess. And since Russia supplies the missiles, weapon platform, spare parts and maintenance, it creates a dependency that China must endure since it is incapable of developing/producing/maintaining similar technologies.

³⁶ John Pomfret, "China Signs \$2 Billion Deal for Russian Fighter Jets," *Washington Post*, 20 Jul 01, p.27.

³⁷ Ibid.

³⁸ Congressional Research Service, "China's Foreign Conventional Arms Acquisitions: Background and Analysis," p.34.

ANALYSIS AND RECOMMENDATION

The potential impact for the U.S. of China's future direction and objectives can best be gauged by attempting to understand China's strategy for resource utilization and its use of asymmetric capabilities to "level the playing field" against a technologically superior adversary. The U.S. can take advantage of the Chinese vulnerability to foreign suppliers by applying pressure (both economic and political) on the producing country and targeting Chinese production and repair facilities of modern equipment. The U.S. should also continue to field technologically advanced weapon systems to ensure our military advantage, and maintain the disparity between U.S. and Chinese industrial production capabilities.

CHINA'S FUTURE STRATEGY

China has several reasons to pursue a more robust and modern military capability. One of Beijing's primary objectives is to see China take what it considers its rightful place as a major regional and global power to set the regional political agenda and determine, rather than react to, major political and economic currents. China also desires to project its power within the region by establishing its influence on the Korean peninsula and throughout the South China Sea, particularly since the South China Sea is purported to possess vast and largely untapped oil resources.

In order to accomplish the above, the driving Chinese goal is to overcome its "Short Arms – Slow Legs" problem. This idiom symbolizes China's lack of reach or range to strike an opponent and their lack of transportation to get to a conflict. Beijing's advanced-technology focus appears to be on technologies that can hinder an adversary's power projection and sustainability in areas of high political and security value to China. Therefore in facing a technologically superior adversary in a limited war, the PLA will seek to:

- hinder an adversary's capability using its superior detection, location and command and control technologies to dominate the battle-space; and
- deny any navy freedom of movement in waters where naval forces can threaten China – a sea denial strategy that includes the airspace above the oceans.³⁹

China will attempt to achieve these goals by a 2-step approach: continue to modernize through foreign procurement and invest in and expand the use of asymmetric capabilities.

MODERNIZATION THROUGH FOREIGN PROCUREMENT

Based on its lack of production capability, fielding proven foreign weapons systems remain the optimal way for China to modernize its military, now and into the next decade. China continues to modernize its military through foreign procurement – mainly from Russia. In 1999, China concluded a \$1.8 billion deal for 40 x Su-30MKK attack-aircraft, and signed another contract with Russia in 2001 for as many as 38 more.⁴⁰ The Su-30MKK will provide China's Air Force with a potent ground attack element to complement the Su-27 fighter that China purchased from Russia in 1992.⁴¹ (See table V for a comparison of the Su-27 and Su-30 along with other modern aircraft). The Su-30MKK represents a quantum leap for China's air force and is capable of carrying the X-31 anti-ship missile (designated as the AS-17 KRYPTON; 43-nm range with a 200-lb warhead)⁴² posing a greater threat to U.S. vessels.

³⁹ Cole and Godwin, "Advanced Military Technology and the PLA: Priorities and Capabilities for the 21st Century," p.203.

⁴⁰ Pomfret, "China Signs \$2 Billion Deal for Russian Fighter Jets" p.27.

⁴¹ Ibid.

The subs include the TEST-71ME wire-guided acoustic homing torpedo (speed 40 knots, range 10.5 nm) and the 53-65KE anti-ship wake homing torpedo (speed 40 knots, range 13 nm). The SOVREMENNYs are armed with eight supersonic active homing, medium range SS-N-22 "SUNBURN" anti-ship cruise missiles (mach 2.5, range 48-65 nm). The SOVREMENNYs also come with the KAMOV-27 (KA-27) anti-submarine warfare (ASW) helicopter, whose radar could help China's supersonic cruise missiles achieve over-the-horizon targeting (OTHT) thus increasing the danger the missiles and ships pose to U.S. Naval forces. – Ehsan Ahrari, "China's 'Not-so-Great' Leap Forward" *Jane's Intelligence Review – Pointer*, 005/001 (1998), p.3

China has also ordered two additional SOVREMENNY-class destroyers from Russia for \$1.4 billion and eight additional KILO-class submarines for \$1.5 billion.⁴³ The KILO and SOVREMENNY deals are especially worrisome for the U.S., as they carry advanced medium-range weapons. Russian systems provide China with immediately operational and relatively modern weapon systems that fill a significant technological gap.

THE USE OF ASYMMETRIC CAPABILITIES

China's leaders understand their limitations, especially their inability to match the U.S. force-on-force. They do believe that a few key high-tech advantages, with foreign assistance, can severely limit/degrade an adversary's ability to dominate China's area-of-influence such as the South China Sea and especially Taiwan. A list of these asymmetric capabilities are:⁴⁴

- Missiles able to threaten Taiwanese airfields and ports and keep U.S. forces out. The Chinese are improving the accuracy of the road-mobile DF-15/M-9 medium-range ballistic missile through Global Position Satellite (GPS) technology.⁴⁵ The DF-11/M-11 short-range ballistic missile may have a circular error probable (CEP) as low as 495 feet with assistance from the GPS.⁴⁶ This capability is an obvious danger for Taiwan since all of its ports and airfields are within range of both the DF-15 and DF-11 missiles. China is also developing varied payloads for their ballistic missiles including submunition warheads packed with bomblets for cratering runways or damaging aircraft, penetration

⁴² Federation of American Scientist (FAS) homepage, <http://www.fas.org/man/dod-101/sys/missile/row/as-17.htm> (1995)

⁴² Lyuba Pronina, "Arming China Makes U.S. Nervous" *Moscow Times*, 22 Aug 02, p.1.

⁴⁴ Newman, "The Chinese Sharpen Their Options" p.2.

⁴⁵ Richard Fisher, "Foreign Arms Acquisition and PLA Modernization" *China's Military Faces the Future*, (Washington, D.C.: American Enterprise Institute, 1999), p.90.

⁴⁶ Newman, "The Chinese Sharpen Their Options" p.3.

warheads for attacking hardened facilities such as command centers, and fuel-air-explosives that can produce 3 to 5 times the blast damage of a conventional high-explosive warhead.⁴⁷ China is also working an altitude control mechanism for the DF-15 that would make the warhead maneuverable as it approaches the target, thus making it more difficult to shoot down with anti-missile systems like the PATRIOT which the U.S. has sold to Taiwan.⁴⁸ Finally, Chinese designers have reduced the radar signature of the DF-15/DF-11 warheads by changing their shapes making intercepting more complicated.⁴⁹

- The use of overhead reconnaissance systems capable of tracking U.S. developments, especially movement of U.S. CVBGs. China launched its first high-resolution electro-optical imaging satellite on 01 September 2001, designated as the Jianbing-3.⁵⁰
- The use of anti-satellite (ASAT) weapons to shut down the U.S. space based intelligence, communications, and targeting systems. China may be seeking an advanced radar system with the capacity to track satellites in low earth orbit.⁵¹ Beijing also may have acquired high-energy laser equipment and technical assistance for use in developing a ground based ASAT weapon, such as a blinding laser to satellites.⁵²

The central point with all of these asymmetric capabilities is that China, by itself, is unable to develop these weapons and systems. Therefore, close attention should be paid to Chinese imports/agreements with other countries.

U.S. STRATEGY AGAINST THE PLA

⁴⁷ Ibid., p.3.

⁴⁸ Ibid., p.3.

⁴⁹ Ibid., p.3.

⁵⁰ Bill Gertz, "Chinese 'Civilian' Satellite A Spy Tool" *Washington Times*, 01 Aug 01, p.1.

⁵¹ Office of the Secretary of Defense, "Future Military Capabilities and Strategy of the People's Republic of China" Washington, D.C. (1999), p.9.

⁵² Ibid., p.9.

Based on the results of the MCTL, it is evident that the U.S. possesses both the ingenuity and capability to design, develop and produce modern, quality state-of-the-art weapon systems, a position China is attempting to attain. In order to maintain our qualitative advantage over China and exploit their weaknesses, the U.S. should focus on a two-fold approach:

Domestic Measures: The U.S. can maintain its technological advantage over the Chinese by continuing to produce such modern weapon systems as the VIRGINIA-class SSN, F-22 RAPTOR fighter, Joint Strike Fighter and V-22 OSPREY. The U.S. also needs to maintain realistic joint and combined exercises to demonstrate resolve and maintain proficiency of U.S. and allied armed forces for possible conflict. China's concept of jointness is so primitive that it considers the simultaneous activity by ground and air forces in nearby areas to be a "joint operation" regardless of whether those operations are integrated or not.⁵³

Foreign Measures: The U.S. can continue to dissuade countries from selling weapon systems that could affect the security situation in Asia by applying economic and/or political pressure on the supplier of the system. An example of this pressure was witnessed in July 2000, when the U.S. persuaded Israel to cancel its \$250 million deal with China for the installation of the Phalcon Airborne-Early-Warning (AEW) radar on a Russian Il-76 transport aircraft. The U.S. can also offer economic incentives to suppliers of critical weapon systems and components to install tracking technology to ascertain the location of such destabilizing platforms as the KILO-class submarines. The U.S. should also target identified vulnerabilities such as the Chinese Su-27 and Su-30 production and repair facilities. Without these critical support bases, the Chinese would be unable to repair or produce airframes of their most current and capable aircraft. Finally, the U.S. needs to

develop better HUMINT sources inside China to identify current and future R&D efforts and report the true direction of Chinese procurement and modernization. Credible and reliable HUMINT sources would ensure that the information the U.S. is receiving regarding Chinese military industrial capability is accurate, and to ensure that any deception methods are revealed.

ASSESSMENT

During the last decade the Chinese economy has provided the resources to help fund the modernization effort. Along with the availability and willingness of Russia to sell its advanced weapons systems, China immediately was able to acquire modern, sophisticated weapon systems that pose a significant threat to the U.S. The new weapons systems packages (Su-27, Su-30, KILO, SOVREMENNY, SA-10, SA-15) provide China with proven, tested and operational platforms that include weapons, training and infrastructure support. However, this reliance on foreign suppliers demonstrates an underlying weakness with China – it lacks the ability to conceive, develop and produce indigenous modern weapons systems. Due to 50-years of Soviet-influenced production standards and lack of ingenuity and quality control, the Chinese military industrial complex is unable to successfully and consistently produce quality, modern weapon systems.

For the next decade, China will continue to purchase its modern weapons systems from foreign sources. This trend has continued into the early 21st century with Chinese agreements with Russia for additional KILO submarines, SOVREMENNY destroyers and Su-30 aircraft. China will need at least a decade before the combination of the licensing agreement with Russia and civilian technology agreements (such as with Boeing and Jeep that include transfer of technology), and a more educated work-force will begin to produce

⁵³ Newman, “The Chinese Sharpen Their Options,” p.4.

more consistent, higher quality, domestically engineered weapons systems. As long as the U.S. maintains its significant technological edge, it will remain well ahead of any Chinese modernization advances.

The U.S. should be aware of the critical Chinese infrastructure problems in order to prepare for any possible future conflicts. We should scrutinize future purchases in order to determine their intent. Will China recognize their ASW shortfalls and purchase UDALOY-class or similar function destroyers and/or Il-38 MAY aircraft and additional KA-27 helicopters? Will they identify their limited OTHT capability and purchase long-range targeting and surveillance aircraft such as the French ATLANTIQUE maritime patrol aircraft or perhaps intelligence gathering ships such as the Russian VISHNYIA AGI?

Another aspect that must be considered with regard to Chinese future intentions is whether the apparent image that China is presenting is actually a deception strategy. Could the Chinese be lulling the U.S. into believing what we are seeing? Is China portraying itself as being completely dependent on foreign suppliers for modern weapon systems, when in reality it is developing weapons even more potent than the ones they are acquiring? The U.S. must increase HUMINT in China to counter any denial and deception that the Chinese may be employing.

As demonstrated, the Chinese recognize their weaknesses, and are leveraging the strengths of other nations (e.g., Russia) with completed, fielded and modern weapons systems for sale to provide the PLA with immediate tactical and operational capabilities that could present significant problems to the U.S. By understanding the direction and strategy that China is heading in arming its forces, the U.S. will be better prepared to confront this transforming and dangerous potential adversary.

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LIEUTANT COMMANDER PATRICK J. DRAUDE, U.S. NAVY

Lieutenant Commander Patrick Joseph Draude was born in Quantico, Virginia on 04 March 1969, the son of BrigGen Thomas V. Draude, U.S.M.C. (ret). He graduated from the University of San Diego in 1991 with a BA in Political Science, and was commissioned as an Ensign, Naval Intelligence, through the ROTC program.

After completing the Navy Marine Corps Intelligence Training Center in 1992, then Ensign Draude reported to Fighter-Squadron Twenty-Four (VF-24) stationed at NAS Miramar, California as the squadron intelligence officer. He completed a WESTPAC cruise with VF-24 as part of Air-Wing Nine (CVW-9) on board the USS NIMITZ (CVN-68).

In 1995, Lieutenant Draude reported to the Defense Intelligence Agency in Washington, D.C., and was assigned to the Joint Staff Intelligence Directorate (J2P) where he worked on the Quadrennial Defense Review (QDR) and service manpower studies. From 1996-1997, Lieutenant Draude volunteered for the Former Yugoslavia Task Force as a briefer to the J2, MGen King, USA.

In 1998, Lieutenant Draude was assigned to the Office of Naval Intelligence (ONI) in Suitland, Maryland as an International Programs Officer in ONI-32. Responsibilities included maintaining and fostering bi-lateral naval relationships as well as scheduling and coordinating VIP visits for the Director of Naval Intelligence and his respected country counterparts. Lieutenant Draude's countries of responsibilities included the United Kingdom, France, Spain, Israel, Denmark, Italy, Egypt, Turkey and Portugal.

While at ONI, Lieutenant Draude received his master's degree from The Catholic University of America in International Affairs. Lieutenant Draude was promoted to Lieutenant Commander in August 2000.

In December 2000, Lieutenant Commander Draude reported to staff of COMSECONDFLT in Norfolk, Virginia, embarked aboard the command ship USS MOUNT WHITNEY (LCC-20). His duties included Collection Manager, Assistant Special Security Officer, Intelligence Center Watch Officer, SECONDFLT Watch Officer and Crisis Action Team member. Lieutenant Commander Draude participated in four Joint Task Force Exercises (JTFEX) for deploying battle groups as well as the NATO exercise STRONG RESOLVE 02 that took place in March 2002 off the coast of Poland.

In November 2002 Lieutenant Commander Draude reported to the Naval War College as a student in the College for Naval Command and Staff.

Lieutenant Commander Draude is married to Kristin Kaderabek of Ann Arbor, Michigan. They have no children and two cats, Mischief and Flash. They currently reside in Middletown, Rhode Island.